

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/803,208	SHIH ET AL.	
	Examiner	Art Unit	
	Thanh Y. Tran	2822	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 18 March 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|--|--|

  
**ARMIN ZARABIAN**  
**ADVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2822**

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Richard A. Paikoff on 01/14/05.

2. The application has been amended as follows:

In claim 1, lines 11-12, delete "wherein one or more openings of the first set in the first photoresist layer, after the exposed part of the BARC layer filled therein is removed, are used for".

In claim 1, line 13, after the word "substrate", please delete "." and insert: "--through one or more openings of the first set in the first photoresist layer after the exposed part of the BARC layer filled therein is removed."--.

In claim 8, lines 15-17, delete "wherein one or more openings of the first set of openings in the first photoresist layer, after the exposed BARC layer filled therein is removed, are used for".

In claim 8, line 17, after the word "substrate", please delete "." and insert: "-- through one or more openings of the first set of openings in the first photoresist layer after the exposed BARC layer filled therein is removed."--.

***Allowable Subject Matter***

3. Claims 1-21 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites, inter alia, *“a method for selectively forming a pattern for making openings in a substrate, the method comprising the steps of: forming a first set of openings in a first photoresist layer coated on the substrate; forming an antireflective coating (BARC) layer over the first photoresist with the openings filled therewith; forming a second photoresist layer over the BARC layer; forming the openings in the substrate through one or more openings of the first set in the first photoresist layer after the exposed part of the BARC layer filled therein is removed”*; and in the combination with other claimed features.

Claim 8 recites, inter alia, *“a method for forming a photoresist pattern to make openings in a substrate comprising: forming a first photoresist layer over a substrate; forming a first set of openings in the first photoresist layer by removing the exposed portion of the first photoresist layer; forming an antireflective coating (BARC) layer over the first photoresist and the first set of openings; forming a second photoresist layer over the BARC layer; forming the openings in the substrate through one or more openings of the first set of openings in the first photoresist layer after the exposed BARC layer filled therein is removed”*; and in the combination with other claimed features.

Claim 16 recites, inter alia, *“a method for forming openings in a substrate comprising: forming a first photoresist layer over a substrate; forming a first set of openings in the first photoresist layer by removing the exposed portion of the first photoresist layer; forming an*

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*antireflective coating (BARC) layer over the first photoresist and the first set of openings, forming a second photoresist layer over the BARC layer; and removing the substrate directly underneath one or more openings of the first set of openings in the first photoresist layer after the exposed BARC layer filled therein is removed*"; and in the combination with other claimed features.

5. The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Y. Tran whose telephone number is (571) 272-2110. The examiner can normally be reached on M-F (9-6:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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